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Progress Report No. 4

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CR-135545

Title: A Study of the Early Detection of Insect Infestations and
Density/Distribution of Host Plants.

Citrus Insects Research
USDA, ARS
509 West Fourth St., Weslaco, Texas 78596

Period: May 1-31, 1973

EREP Investigation No. 319
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- (a) During this reporting period one-fourth of the entire test area was photographed from an altitude of 10,000 feet. The camera used was a modified K-37 with a 12" focal length lens and a 9 x 9" format. The film used was color IR aerial film with the required configuration of filters. Underflights of the area were made at the time of Skylab's pass on track 20. Several flights of the S-191 test area were made before, during, and after Skylab's pass on track 20. Ground truth was acquired. Weather conditions still remain a problem. Due to the abnormal cloud coverage for this time of year, only a few days were suitable for aerial photography. Conditions were good during the passing of Skylab.
- (b) Every available day will be used to continue the photography of the test area. The purchase of a second camera was made in order to have 2 available to take advantage of all the suitable flying time for aerial photography during the remainder of the study.
- (c) During the next reporting period, following processing and photointerpretation of the photography taken at the end of the current reporting period, follow up ground surveys of the problem areas of the test site will be conducted. We expect to increase our knowledge of specific photo interpretation problems because of the extensive time spent gathering

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the ground truth to find answers to unfamiliar plots, and unusual factors observed on the film. Our new multispectral camera and color additive viewer are due to be delivered in the near future and this should give us much greater depth in approaching our remote sensing problems.

- (d) We are gaining extensive knowledge concerning pest and host plant signatures from the ground to 10,000 foot altitude, and with this knowledge we anticipate an excellent opportunity to compare this data with EREP data. Significant results concerning the possible correlations and applications of Skylab data are yet to be determined.
- (e) We are photographing at every opportunity and keeping data records to be related to Skylab photo data. We plan to intensify our efforts at data gathering in order to compensate for the time lost due to inclement weather.
- (f) Limited to local travel for ground truth information. No immediate changes are anticipated.